

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

1. REGISTRATION NO.
93-R-0473

CUSTOMER NO.
21397

FORM APPROVED
OMB NO. 0579-0036

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

2. HEADQUARTERS RESEARCH FACILITY (Name and Address, as registered with USDA, include Zip Code)

LA JOLLA BIOENGINEERING INSTITUTE
505 COAST BLVD, SOUTH
LA JOLLA, CA 92037
(858) 456-7500

3. REPORTING FACILITY (List all locations where animals were housed or used in actual research, testing, teaching, or experimentation, or held for these purposes. Attach additional sheets if necessary.)

FACILITY LOCATION

See Attached Listing

(b)(2)High, (b)(7)f

(b)(2)High, (b)(7)f

REPORT OF ANIMALS USED BY OR UNDER CONTROL OF RESEARCH FACILITY (Attach additional sheets if necessary or use APHIS FORM 7023A)

A. Animals Covered By The Animal Welfare Regulations	B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not yet used for such purposes.	C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.	D. Number of animals upon which experiments, teaching, research, surgery, or tests were conducted involving accompanying pain or distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs were used.	E. Number of animals upon which teaching, experiments, research, surgery or tests were conducted involving accompanying pain or distress to the animals and for which the use of appropriate anesthetic, analgesic, or tranquilizing drugs would have adversely affected the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests. (An explanation of the procedures producing pain or distress in these animals and the reasons such drugs were not used must be attached to this report)	F. TOTAL NO. OF ANIMALS (Cols. C + D + E)
4. Dogs					
5. Cats					
6. Guinea Pigs					
7. Hamsters	0	39		89	128
8. Rabbits					
9. Non-Human Primates					
10. Sheep					
11. Pigs					
12. Other Farm Animals					
13. Other Animals					

ASSURANCE STATEMENTS

- 1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, and following actual research, teaching, testing, surgery, or experimentation were followed by this research facility.
- 2) Each principal investigator has considered alternatives to painful procedures.
- 3) This facility is adhering to the standards and regulations under the Act, and it has required that exceptions to the standards and regulations be specified and explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all the exceptions is attached to this annual report. In addition to identifying the IACUC-approved exceptions, this summary includes a brief explanation of the exceptions, as well as the species and number of animals affected.
- 4) The attending veterinarian for this research facility has appropriate authority to ensure the provision of adequate veterinary care and to oversee the adequacy of other aspects of animal care and use.

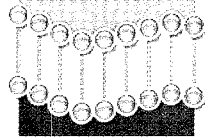
CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL
(Chief Executive Officer or Legally Responsible Institutional official)

(b)(6), (b)(7)c

DATE SIGNED

9/27/06

HEADQUARTERS



La Jolla BIOENGINEERING Institute

Registration Number: 93-R-0473

Customer Number: 21397

Number animals Used in Study: 89

Species: Hamster

Malaria is a leading cause of death due to an infectious agent. The parasite that causes malaria is of the genus *Plasmodium*. The investigator is studying the mechanisms whereby hemoglobin released by parasite rupture of the erythrocytes leads to microcirculatory complications and tissue damage. To study these mechanisms the animals are subjected to infection with the parasite prior to study. The investigator needs to let the disease progress in order to measure the impact of treatments on survival and the development of disease. Previous time course studies indicated there is little adhesion prior to day-6 of infection in mice, the time point when the animals become lethargic and lose their righting and gripping reflexes. In the hamster the duration of the disease is longer to day 10 and adhesion occurs by day 7. Analgesics will help alleviate the discomfort of cerebral malaria for the animals. However, analgesics are known anti-inflammatory agents and will affect the inflammatory measurements (leukocyte and platelet adhesion) we are performing.

INFECTION

To infect the hamsters with *P. berghei*, animals are injected intraperitoneally (IP) 1.5×10^7 parasitized erythrocytes in phosphate buffered saline. Animals are monitored daily for general appearance, food and water intake. Progression of the infection is also monitored by obtaining a blood smear every two days. A lancet is used to prick the animal's tail, and a small drop of blood (approx. 2 μ l) is collected. This prick is performed without anesthesia because the pain is less than would be required to inject anesthesia. On Day 8-10 of infection, animals develop the complications of *P. berghei* malaria. We assess the extent of their disease by performing simple neurological tests, such as the righting reflex and ruffled fur. If the animal is significantly impaired in these responses, we will either use the animal in the experiment or euthanize it. Animals are euthanized by 100mg/kg Euthasol.

STUDY

Intravital experiments are conducted with unanesthetized animals. However no pain, stress, or anxiety should be associated with these procedures. Throughout the experiments, breathing pattern and the general behavior of the animal will be observed to assess if it is experiencing any distress or pain. In resting state, a non-physiological change in respiratory rate indicates pain/discomfort. In these cases, the experiment will be immediately terminated. The animal has free access to food and water throughout the observation period.